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ABSTRACT

Investigated were self concept levels of 109 deaf college students, and examined were social interaction behaviors among a subset of 27 Ss from the study sample. Results of the Tennessee Self Concept Scale indicated a response pattern demonstrating psychological distress or maladjustment, but reliability and comprehension analysis suggested that a deaf person may approach such a test with restricted or unusual interpretations of item stimuli. Results of the performance of 27 Ss on the Social Performance Indicator revealed that assertiveness and self identity in groups were directly related to individual self concept. (CL)

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Self-Concept and Social Interaction in a Deaf Population

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ABSTRACT

The purposes of this study were: (1) to investigate self-concept levels in a sample of 109 deaf college students; and (2) to examine social interaction behaviors among a subset of 27 students from the study sample. Self-concept in this investigation was examined from an interactionist point of view. Results suggested that findings of "low" self-esteem among the deaf should be interpreted with caution. Additional research was cited bearing on the particular problems of affective assessment among the deaf.

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Paper presented at the annual meeting of the American Educational Research Association, Toronto, Ontario, March, 1978.

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INTRODUCTION

Research interest in the role of the self-concept in explaining the mechanisms of behavior very likely began with the work of William James (1890). Since that time, writing and research concerning the self have increased at a rapid rate. While many empirical studies relevant to self-concept have not addressed themselves to any one theoretical position (Wylie, 1974), personality theorists are in general agreement that the self-concept plays an active, dynamic role in shaping experiences.

As human beings we are vitally influenced by other persons in our environment. The people who are important to us influence our perceptions of ourselves. The experiences which we have daily provide us with information as to whether we are competent or incompetent, good or bad, worthy or unworthy. Thus, the self-concept is formed largely from the information and feedback provided through

our social interactions and experiences, much of which is received auditorily. Given that the dominant mode of communication in our society is auditory, there is some question as to whether self-concept development of the hearing-impaired is adversely affected by their relative inability to interact in this mode.

Even under the best of circumstances, deafness tends to impose limitations on the social interactions of deaf individuals. Therefore, it is reasonable to ask whether this form of isolation from others affects the perceptions which the hearing-impaired person holds with respect to himself. On this issue, Craig (1965) provided some evidence that deaf children may have difficulty in presenting <u>accurate</u> perceptions of themselves. Specifically, the deaf children studied were found to be significantly less accurate in their self-perceptions than were a group of hearing children. In particular, Craig indicated that the deaf described themselves more favorably than did their hearing counterparts.

Numerous studies of the personality patterns of deaf adolescents and/or adults have produced findings of less adequate personal adjustment among the deaf as compared with their hearing counterparts (see, for example, Myklebust, 1960; literature review by Schuldt & Schuldt, 1972). Sussman (1973) also provided evidence of a generally negative level of self-concept for a sample of 129 deaf adults residing in the metropolitan New York City area. In this instance, Sussman demonstrated a significant positive relationship between the self-concept level of the deaf individual and his/her perceptions of hearing people's attitudes toward deafness and deaf persons.

The effects of physical handicaps, in general, on the development of the self-concept have been found in many instances to be negative (McCandless, 1967; Meissner & Thoreson, 1967; Richardson & Emerson, 1970). Felker (1974) suggested that the negative effects of physical handicaps on self-concept may be due at least partially to feelings of decreased competence and efficiency on the part of the handicapped person. It has also been argued that if an individual possesses a handicap that carries with it negative social connotations, then he is likely to learn from his social interactions that he should regard himself with the same negative connotations which society attributes to his handicap (Goffman, 1963). The extent to which this situation may account for the seemingly negative levels of self-esteem expressed by the deaf is not fully known.

The purposes of the present study were: (1) to investigate self-concept levels in a sample of deaf college students; and (2) to examine social interaction behaviors among deaf students using a behavioral rating scale developed at the National Technical Institute for the Deaf (NTID). Differences between hearing and deaf populations with respect to self-concept were examined. The quality of social interaction among a sample of deaf students also was investigated from multiple viewpoints (i.e., the deaf respondent, and two independent observers).

METHOD

Data Source

The primary sample for this study consisted of 109 deaf students (age range 17-31 years) randomly drawn from a larger pool of students

who had participated in a six-week summer vestibule program at NTID. Behavioral data pertaining to social interaction were obtained on a random sample of 27 of the 109 students tested.

Instrumentation

The Tennessee Self Concept Scale (TSCS: Fitts, 1965) was used to measure self-concept. The TSCS consists of 100 self-referent statements to which the examinee responds on a five-point rating scale extending from "completely true" to "completely false" in its published form. However, in the present study, scale point descriptors including the words "completely" and "mostly" were substituted with the sign-related expressions "always" and "almost always", respectively.

Since the original development of the TSCS by Fitts (1965), over 1,000 research studies reporting its use have appeared in the professional literature, many of which have been directed toward an elucidation of its validity and clinical applications. Some reliability and validity data for the instrument are presented by Fitts (1965). The TSCS has been used only sparingly with deaf respondents (Randall, 1969; Sussman, 1973).

The Social Performance Indicator (SPI: Burke, 1972; Emerton, 1975), an NTID product, was used to assess social behaviors. In its present form, the instrument includes 22 items designed to assess social behavior relevant to Self, Environment, and Interaction with Other People. Each of the items comprising the SPI has a checklist of five response alternatives arranged negative to positive (i.e., "never" to "always") with a sixth category provided for "Don't Know" responses.

Limited reliability and predictive validity data for this instrument were presented in an earlier study by Garrison and Emerton (1977).

Procedure

The TSCS was administered under group conditions to 109 students. Two weeks later, 87 of the 109 students were retested in order to examine the short-term stability of examinees' responses. A pilot study of the ease of administration of the TSCS prior to testing had revealed a number of words contained in the test stimuli which were not familiar to the deaf respondents. Therefore, supplementary materials intended to simplify the language of the test and/or to provide alternatives to the actual item wordings were utilized in the testing situation.

The SPI was administered to 27 students in individual interview situations. As with the TSCS, care was taken to explain or otherwise simplify the substance of items contained in this instrument. Using the same sample of 27 students, a group of career planning counselors and a group of dormitory advisors also were asked to provide behavioral ratings for each student on the SPI. Thus, it was possible to examine the congruence between self-perceptions and the perceptions of others in the college environment.

RESULTS

Tennessee Self Concept Scale

Profile Interpretation

Using the response data obtained from the 109 deaf students initially tested with the TSCS, scale scores and group statistics were computed for each of the 28 score categories designated in the Manual

(Fitts, 1965). For an extended discussion of the development and psychological interpretation of the various score categories, the reader is referred to the Manual.

Table 1 presents the means and standard deviations resulting from analysis of the first administration test data, together with normative data from Fitts' original standardization sample. The t-statistics reported in the last column of Table 1 indicate statistically significant differences between the means obtained from the deaf population and those reported for the standardization group on 22 of the 28 score categories. Where variances between the two comparison groups differed, computed t's were tested for significance using the formula developed by Cochran and Cox (1957).

Figure 1 illustrates the profile resulting from a plot of the group means contained in Table 1 for the deaf respondents. The reader should note that profile points falling outside of the upper and lower limits (red lines) established by Fitts (1965) generally reflect extreme deviance from the norm group.

A clinical evaluation of the data contained in Table 1 (illustrated in Figure 1) suggests, then, that the total level of self-esteem among the deaf students tested tends to be low (approaching the lower limit specified on the Profile Sheet). This pattern of low self-esteem is substantiated further in all of the Row and Column sub-scores constituting the Total Positive Score, except for Column "C" (Personal Self Score). This particular score reflects the individual's sense of personal worth, adequacy as a person, and evaluation of his/her personality apart from his or her body and relationships with others.

Table 1

Means and Standard Deviations for 28

Score Categories on the TSCS

Score Category	Deaf Sample (n = 109)		Normative Hearing Sample[a] (n = 626)			
	Mean	SD	Mean	SD	t[b]	
Self Criticism	30.19	4.32	35.54	6.70	-8.04	
T/F Ratio	1.57	.68	1.03	.29	13.95	
Net Conflict	13.47	19.99	-4.91	13.01	12.42	
Total Conflict	40.79	10.57	30.10	8.21	11.98	
Total Positive	320.07	24.39	345.57	30.70	-8.23	
Identity	116.88	10.90	127.10	9.96	-9.75	
Satisfaction	98.72	9.49	103.67	13.79	-3.60	
Behavior	104.47	8.80	115.01	11.22	-9.32	
Physical Self	67.77	5.79	71.78	7.67	-5.20	
Moral-Ethical Self	61.29	6.65	70.33	8.70	-10.33	
Personal Self	65.55	6.23	64.55	7.41	1.33	n.s.
Family Self	63.50	6.28	70.83	8.43	-8.66	
Social Self	61.95	6.86	68.14	7.86	-7.72	
Total Variability	47.80	10.19	48.53	12.42	-.58	n.s.
Column V	28.38	7.04	29.03	9.12	-.71	n.s.
Row V	19.42	5.20	19.60	5.76	-.30	n.s.
Distribution	102.82	25.30	120.44	24.19	-6.97	
5	16.49	11.11	18.11	9.24	-1.64	n.s.
4	25.27	9.30	24.36	7.55	1.11	n.s.
3	28.23	11.15	18.03	8.89	10.62	
2	15.46	6.76	18.85	7.99	-4.18	
1	14.56	7.63	20.63	9.01	-6.63	
Defensive Positive	60.51	9.39	54.40	12.38	4.91	
General Maladjustment (inverse)	88.84	7.93	98.80	9.15	-10.68	
Psychosis	60.65	5.93	46.10	6.49	21.87	
Personality Disorder (inverse)	64.57	7.27	76.39	11.72	-10.19	
Neurosis (inverse)	82.03	9.77	84.31	11.10	-2.02	
Personality Integration	8.18	3.05	10.42	3.88	-5.72	

[a]Reproduced from the test Manual (Fitts, 1965).

[b]All t-statistics reported in this column are significant at $p < .05$ unless designated n.s.

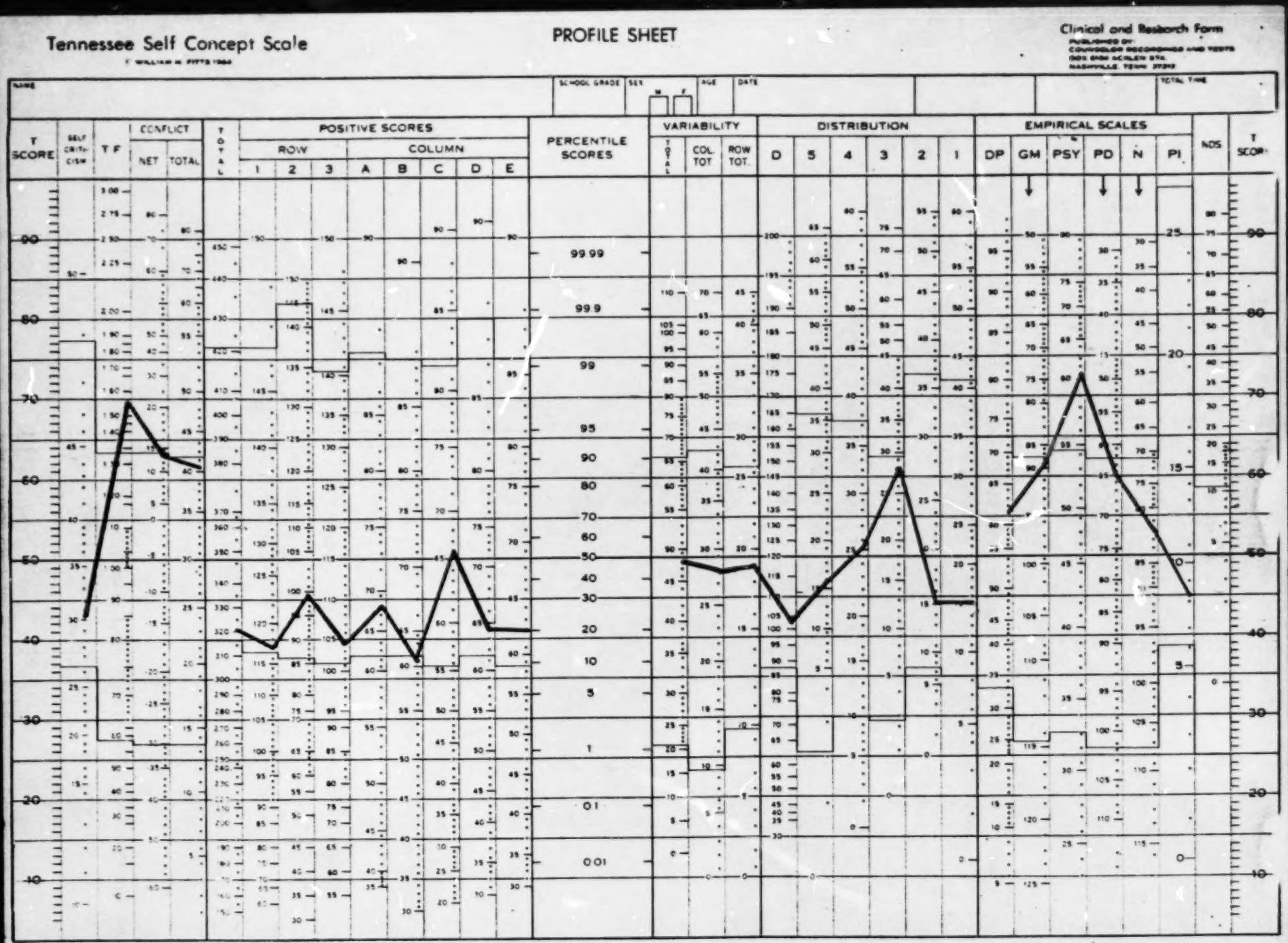

Figure 1. Profile of mean scores from 109 students entering NTID during the fall of 1977.

The variability scores (Total, Column and Row) reflect consistency among the areas of self-perception assessed and do not differ statistically from the normative data provided by Fitts (1965). This finding is consistent with the pattern of results discussed above, in that persons with a generally negative level of self-esteem may tend to be consistent in their negative evaluations of themselves in many aspects of self-perception.

The distribution scores indicate a prevalence of "3" responses (the neutral category on the 5-point rating scale to which the examinees responded). In combination with the Self Criticism Score obtained for the deaf population, this finding is suggestive of defensive distortion. However, an equally convincing case could be made for uncertainty and/or noncommital in the self-perceptions reported by the deaf.

The True/False Ratio is a measure of response set or bias and, in this case, indicates the deaf subject's tendency to agree more than to disagree with test stimuli regardless of content. However, since half of the items are positive in content and half are negative, this acquiescence tendency has the effect of introducing conflict into the deaf individual's presentation of him or herself. The conflict scores (Net and Total) indicate confusion, contradiction and general conflict in self-perceptions. This pattern is characteristic of many groups of disturbed individuals.

Finally, a comparison of group means for the deaf and standardization populations on each of the six empirical scales revealed statistically significant differences in each case. The six empirical scales

were derived by item analysis, with the resulting selection of those items which best differentiated one group of subjects from all others tested (Fitts, 1965). These groups were designated as follows:

Group	Size
Norm group	626
Psychotic group (Psy)	100
Neurotic group (N)	100
Personality disorder group (PD)	100
Defensive positive group (DP)	100
Personality integration group (PI)	75

The general impression which emerges from analysis of the means obtained for the deaf population with respect to the empirical scales is one of psychological distress or maladjustment. In particular, the spike observed on the Psy scale would indicate a response pattern similar to that obtained from psychotic patients. Such an interpretation must be tempered, however, with the findings discussed earlier regarding response bias, uncertainty and confusion or conflict within the areas of self-perception assessed.

Reliability and Comprehension Analyses

Table 2 presents the stability coefficients resulting from the test-retest correlations of examinees' scores on each of the 28 subscales comprising the TSCS. For comparison with the reliability estimates reported in the Manual, the second column of Table 2 reproduces data reported by Fitts (1965) based upon the test-retest of 60 hearing college students over a two-week period.

Table 2

Test-Retest Reliability Coefficients for 28

Score Categories on the TSCS

Score Category	Deaf Sample (n = 87)	Normative Hearing Sample[a] (n = 60)
Self Criticism	.56	.75
T/F Ratio	.42	.82
Net Conflict	.74	.74
Total Conflict	.56	.74
Total Positive	.77	.92
Identity	.55	.91
Satisfaction	.74	.88
Behavior	.76	.88
Physical Self	.64	.87
Moral-Ethical Self	.74	.80
Personal Self	.70	.85
Family Self	.67	.89
Social Self	.72	.90
Total Variability	.52	.67
Column V	.49	.73
Row V	.60	.60
Distribution	.81	.89
5	.80	.88
4	.70	.79
3	.81	.77
2	.68	.71
1	.73	.88
Defensive Positive	.72	.90
General Maladjustment	.64	.87
Psychosis	.57	.92
Personality Disorder	.67	.89
Neurosis	.69	.91
Personality Integration	.57	.90

[a]Reproduced from the test Manual (Fitts, 1965).

Examination of the data contained in Table 2 clearly indicates a lesser degree of response stability for the deaf students tested than was evidenced in the standardization situation. The coefficients obtained for the deaf population are consistently lower than those reported for the hearing group on 25 of the 28 subscales. For two of the remaining subscales (Net Conflict and Row Variability), the coefficients are the same. Only on the scale which summarizes the use of the "3" response category (the neutral position on the 5-point rating scale) does the stability coefficient obtained with the deaf population exceed that obtained with the hearing group. That this same score category also produced the largest coefficient of stability (r = .81) may serve to suggest that the most consistent finding of the test results obtained for the deaf respondents is uncertainty, either about one's self or the test stimuli.

Recognizing the linguistic limitations of the population directly under investigation, stability analyses of the TSCS data also were performed controlling for the variable of "comprehension". Specifically, examinees were classified into upper, middle and lower thirds of the total group (n = 87) on the basis of scores attained on the California Reading Comprehension Test (Tiegs & Clark, 1957). This instrument yields a grade equivalent score ranging from 5.0 to 12.0.

Only the upper and lower thirds of the group were analyzed in order to avoid misclassification of individuals. The upper third was composed of 28 persons (M = 10.06, SD = .98) and the lower third was composed of 29 persons (M = 6.83, SD = .56). The figures in parentheses above

represent mean reading level abilities expressed in the grade equivalent metric. Table 3 presents the stability coefficients computed for these two groups.

Examination of the data contained in Table 3 indicates a rather consistent increase in test-retest reliability for the upper third of the respondents over the coefficients presented earlier for the entire group (increases in 26 of the 28 score categories). Moreover, the reliability indices reported for the lower third of the group generally are lower than those reported for the group as a whole (in all but five of the score categories). Differences between the reliability coefficients obtained with the upper and lower third groups were tested for significance using Fisher's r to Z transformation. The resulting Z differences are reported in Table 3. Statistical significance ($p < .05$) was found in 12 of the 28 comparisons. In general, it may be concluded from these analyses that the deaf individual's ability to present him or herself in a consistently accurate manner over time is influenced by the linguistic problems he or she may encounter in a paper-and-pencil testing situation.

Finally, Table 4 presents the means and standard deviations for each of the TSCS scales corresponding to the classifications of persons as "high" and "low" comprehenders. The last column of Table 4 presents the t-statistics computed from tests between the corresponding means. Figure 2 illustrates the profiles resulting from a plot of the data contained in Table 4.

Examination of the data contained in Table 4 reveals statistically significant differences between "high" and "low" comprehenders on the

Table 3

Stability Coefficients for "High" and "Low" Comprehension Groups

Score Category	Upper Third of Respondents (n = 28)	Lower Third of Respondents (n = 29)	Z-Difference
Self Criticism	.66	.52	1.08
T/F Ratio	.51	.26	1.48
Net Conflict	.86	.62	2.84*
Total Conflict	.75	.24	3.64*
Total Positive	.82	.72	1.25
Identity	.81	.24	4.41*
Satisfaction	.76	.64	1.19
Behavior	.77	.80	.40
Physical Self	.81	.60	2.17*
Moral-Ethical Self	.72	.69	.30
Personal Self	.86	.64	2.67*
Family Self	.84	.52	3.22*
Social Self	.76	.54	1.96*
Total Variability	.64	.43	1.49
Column V	.68	.36	2.26*
Row V	.48	.52	.27
Distribution	.89	.36	.65
5	.89	.85	.83
4	.81	.82	.15
3	.90	.78	2.14*
2	.82	.60	2.32*
1	.84	.76	1.12
Defensive Positive	.83	.66	1.98
General Maladjustment	.80	.48	2.88*
Psychosis	.78	.35	3.40*
Personality Disorder	.73	.60	1.18
Neurosis	.83	.67	1.89
Personality Integration	.74	.56	1.59

*$p < .05$

Table 4

Means and Standard Deviations on 28 TSCS Scales for "High" and "Low" Comprehenders

Score Category	Lower Third[a] (n = 29) Mean	SD	Upper Third[b] (n = 28) Mean	SD	t
Self Criticism	29.28	4.46	30.93	4.08	1.43
T/F Ratio	1.63	.62	1.53	.72	.56
Net Conflict	16.03	19.26	10.86	18.91	1.00
Total Conflict	43.00	10.44	37.14	9.99	2.13*
Total Positive	312.93	24.63	339.14	22.12	4.15**
Identity	114.31	10.61	124.46	10.51	3.56**
Satisfaction	95.79	8.61	105.96	8.07	4.52**
Behavior	102.83	11.11	108.71	7.62	2.30*
Physical Self	66.48	4.97	70.21	6.58	2.36*
Moral-Ethical Self	60.52	5.53	66.25	6.33	3.56**
Personal Self	64.79	6.09	69.18	5.58	2.80**
Family Self	61.83	5.90	67.21	4.50	3.79**
Social Self	59.31	7.69	66.29	6.02	3.75**
Total Variability	48.41	11.43	46.25	11.05	.71
Column V	28.90	7.80	28.39	7.87	.24
Row V	19.52	4.73	17.86	4.49	1.34
Distribution	105.52	28.40	106.57	28.69	.14
5	17.69	13.16	17.14	11.11	.17
4	25.03	10.00	24.89	10.03	.05
3	28.10	11.01	26.54	14.12	.46
2	13.24	5.78	15.46	8.02	1.19
1	15.93	7.61	15.96	8.57	.01
Defensive Positive	59.31	9.22	64.21	8.56	2.04*
General Maladjustment (inverse)	87.48	7.82	94.32	7.34	3.35**
Psychosis	63.24	5.26	57.68	7.14	3.29**
Personality Disorder (inverse)	63.24	8.22	69.64	6.95	3.12**
Neurosis (inverse)	79.07	11.11	87.36	8.65	3.09**
Personality Integration	7.10	2.86	9.14	3.25	2.46*

*$p < .05$
**$p < .01$

[a]Comprehension scores less than or equal to 7.5 (grade equivalent).

[b]Comprehension scores greater than or equal to 8.8.

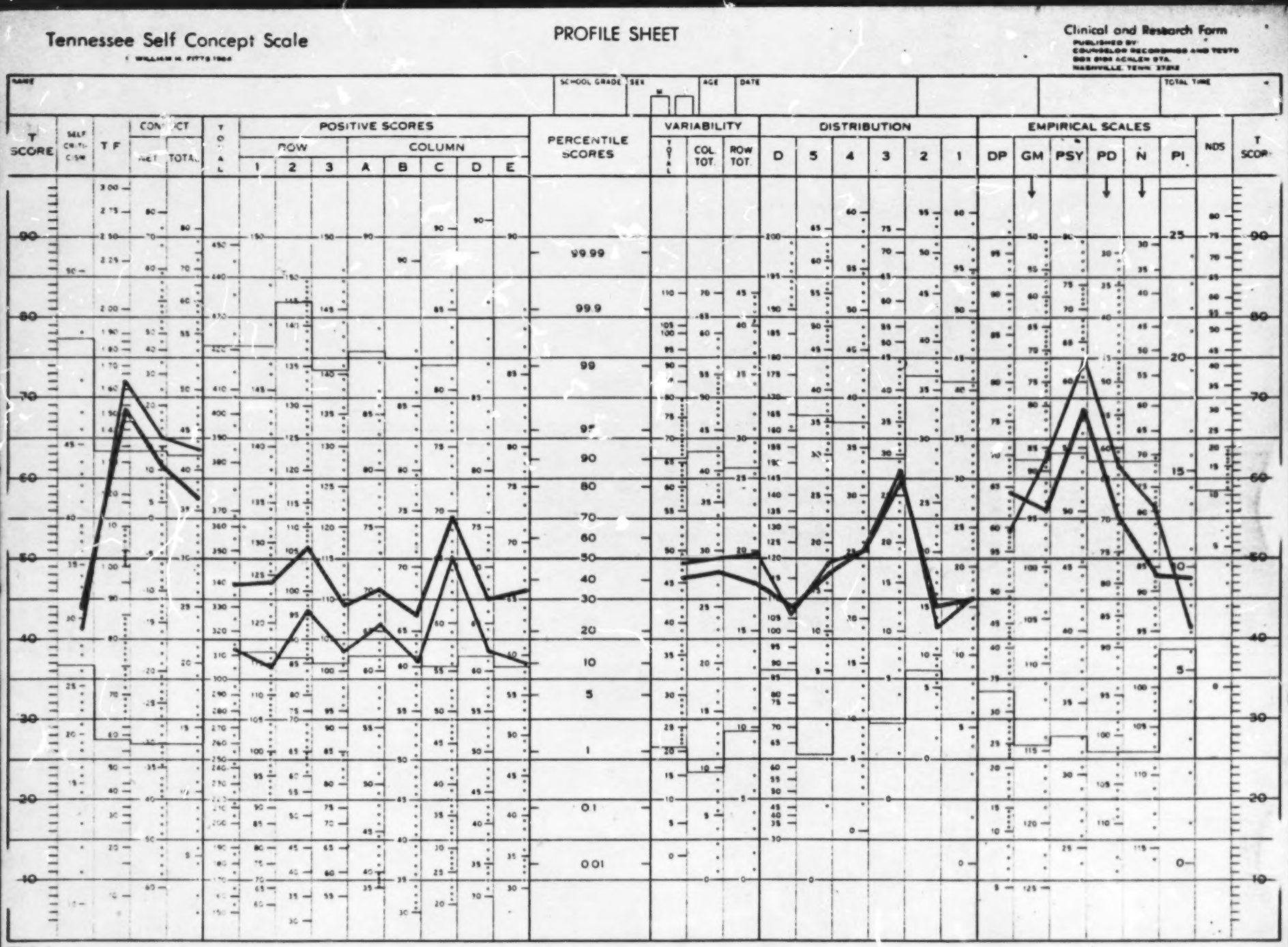

Figure 2. Profile comparison between "high" (green, n=28) and "low" (red, n=29) comprehenders.

mean scores computed for all of the major scoring categories in the TSCS (Total Self-Esteem, Rows and Columns), and for all of the empirical scales. Specifically, it may be seen from Figure 2 that persons with a higher degree of comprehensional skills rather consistently presented themselves in a more favorable manner than did deaf individuals with lower comprehension abilities. Nevertheless, the configurations of the two profiles bear general resemblance, differing most in the extent of their respective elevations.

The spikes observed for each of the two profiles occur on the same subscales (True-False, Psychotic). It would appear that regardless of tested level of English comprehension, the deaf individuals in this study tended to agree with the test stimuli more frequently than they disagreed. This acquiescence tendency, however, has the effect of introducing conflict into the picture that one presents of him- or herself. Thus, the question was raised as to whether the deaf individual may approach such a test as the TSCS in terms of restricted or unique interpretations of item stimuli.

Social Performance Indicator

Data collected from the SPI were examined first in terms of the distribution of ratings given across the six scale categories by each of the student, dormitory advisor, and career counselor groups. Figure 3 illustrates these findings.

An examination of the information contained in Figure 3 indicates a greater degree of uncertainty (i.e., "Don't Know" responses) in the ratings of counselors than in those of the dormitory advisors. This

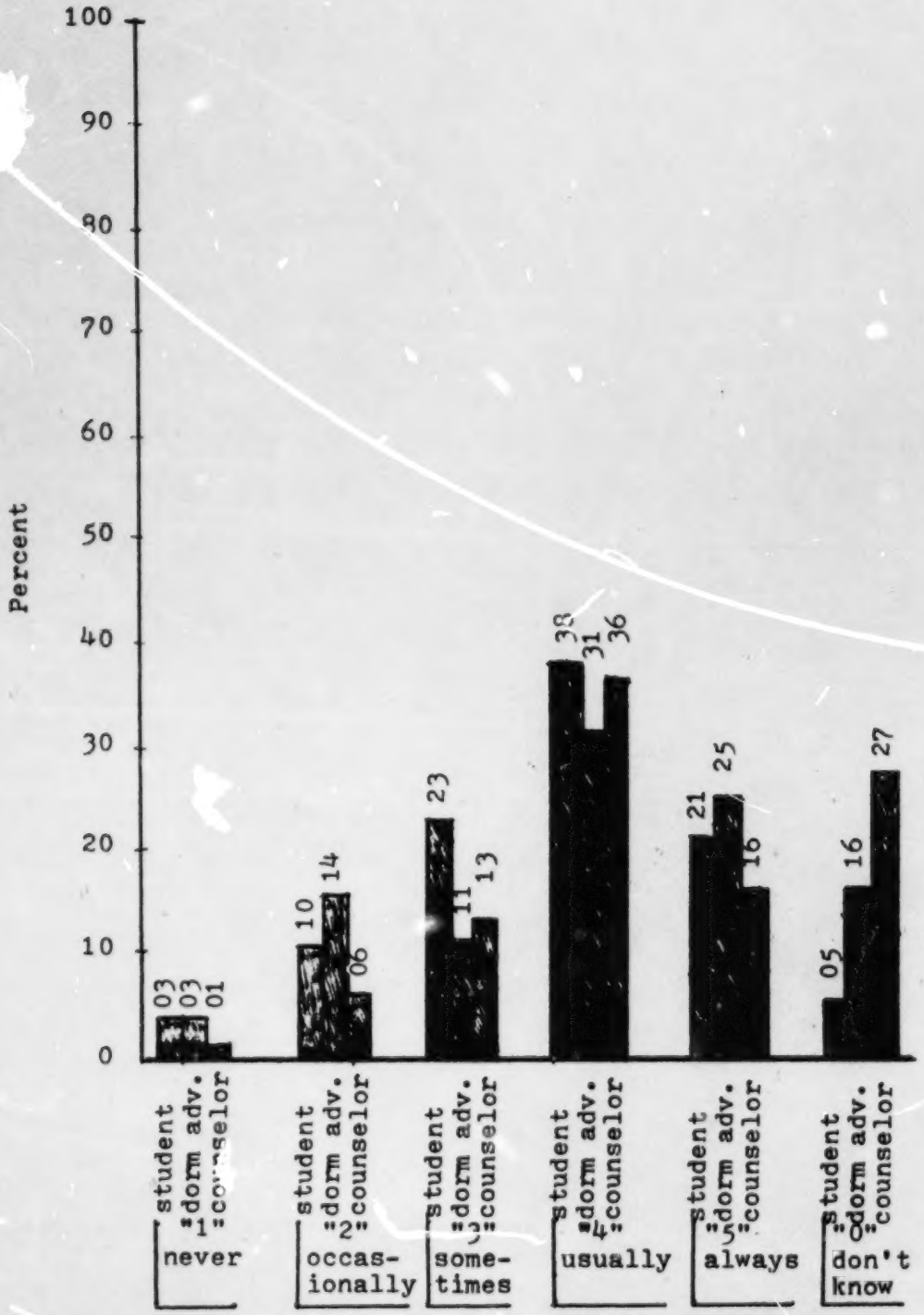

Figure 3. Distributions of SPI scale ratings for students, dormitory advisors and career planning counselors.

situation may well reflect the differing degrees of contact and interaction between students and raters. However, where ratings were provided by the three groups on the basis of "known" information, there is general consistency in the use of the five response categories, with a prevalence of "4" responses. A test of the statistical difference between the use of the 1, 2, 3, 4 and 5 categories among the three groups of respondents was non-significant ($\chi^2_8 = 1.64$).

Table 5 presents the mean ratings for each of the items contained in the SPI for each of the three groups of raters. Comparisons of the three mean ratings by item (using a single classification analysis of variance) produced F- ratios which failed to reach statistical significance in every case. Therefore, it was concluded that the three groups of respondents did not differ significantly among themselves in their perceptions of students' standings on the behaviors assessed.

Rank ordering of the ratings (from highest to lowest) provided by the three groups revealed some common concerns on the part of each group. The lowest five ratings on the part of students were associated with their abilities to: (1) assert themselves in groups ($\bar{X} = 2.75$); (2) maintain their self-identity in social relationships ($\bar{X} = 3.16$); (3) work with others in making group decisions ($\bar{X} = 3.35$); (4) meet commitments made to others ($\bar{X} = 3.38$); and (5) get along with hearing people ($\bar{X} = 3.40$). Dormitory advisors expressed greatest concern in students' abilities to: (1) get along with others in competition ($\bar{X} = 2.80$); (2) assert themselves in groups ($\bar{X} = 2.85$); (3) work with others in making group decisions ($\bar{X} = 3.10$); (4) get along with hearing people ($\bar{X} = 3.20$); and (5) maintain self-identity in social relationships ($\bar{X} = 3.33$).

Table 5

Mean Ratings by Item for Each

of the Respondent Groups

Item	Student	RA	Counselor	Grand
1. Initiating relationships	4.13	3.54	3.77	3.81
2. Maintaining relationships	4.33	4.00	4.16	4.16
3. Maintaining identity in social relationships	3.16	3.33	2.88	3.12
4. Asserting self in groups	2.75	2.85	2.45	2.68
5. Showing consideration for the feelings of others	3.54	3.63	3.90	3.69
6. Accepting responsibility for actions toward others	3.66	3.83	4.33	3.94
7. Respecting the authority of others	4.20	4.16	4.16	4.17
8. Respecting commitments made to others	3.88	4.23	4.30	3.97
9. Facilitating two-way communication with others	3.50	3.36	3.40	3.42
10. Handling advice from others	3.62	3.75	3.62	3.66
11. Respecting the rights of others	3.95	4.50	4.15	4.20
*12. Understanding change in others	---	---	---	---
13. Handling negative reactions	3.88	3.66	3.11	3.55
14. Working with others in making group decisions	3.35	3.10	3.80	3.41
15. Getting along with deaf people	4.28	3.76	4.19	4.07
16. Getting along with hearing people	3.40	3.20	4.20	3.60
17. Respecting group rules	3.82	4.00	3.91	3.91
18. Getting along with others in competition	3.80	2.80	4.20	3.60
19. Maintaining personal appearance	4.00	4.04	3.95	4.00
20. Attendance	4.30	4.03	4.46	4.26
21. Initiative	4.05	3.66	3.66	3.79
22. Responsibility	3.94	3.70	4.05	3.90

*This item was omitted from the analyses since 45% of the total responses were "Don't Know".

Counselors were most concerned with students' abilities to: (1) assert themselves in groups ($\bar{X}$ = 2.45); (2) maintain self-identity in social relationships ($\bar{X}$ = 2.88); (3) handle negative reactions ($\bar{X}$ = 3.11); (4) facilitate two-way communication with others ($\bar{X}$ = 3.40); and (5) handle advice from others ($\bar{X}$ = 3.62).

Four times out of five, the students and dormitory advisors shared common concerns. Counselors agreed with these two groups on two of the lowest ranking items. These two items (assertiveness and self-identity in groups) are related directly to an individual's level of self-concept.

DISCUSSION AND CONCLUSIONS

The purposes of the present study were stated earlier in the form of two objectives: (1) to investigate self-concept levels in a sample of deaf college students; and (2) to examine social interaction behaviors among a subset of students from the study sample. The primary sample under investigation was composed of 109 students beginning a course of study at NTID during the fall of 1977. Eighty-seven of these students were retested on the TSCS after a period of two weeks. Twenty-seven students from the primary sample subsequently rated themselves on 22 social behaviors. Ratings on the social behavior checklist for the same 27 students also were obtained from dormitory advisors and career planning counselors.

Clinical analyses of the TSCS group data (n = 109) indicated a generally low level of self-esteem among the deaf students tested. This general finding was substantiated further from examination of the means

computed for many of the subscale categories of the TSCS. However, some evidence also was obtained suggesting uncertainty, confusion and general conflict in the deaf individual's presentation of him- or herself. In particular it was noted that the deaf students tended to agree more than to disagree with the test stimuli regardless of content, even though the TSCS is composed of equal numbers of positively and negatively stated items within each of the categories of self-concept assessed. Finally, the peak score observed on the Psy empirical scale for the group provided an indication of psychological distress among the deaf individuals tested.

Stability analyses of students' responses on the TSCS (n = 87) indicated that persons with "higher" reading comprehension skills were more consistent in their perceptions of themselves than were persons with "lower" comprehension skills. However, it is to be noted that the TSCS presumes only sixth-grade reading ability and all of the students tested possessed at least this level of comprehension.

Persons with higher comprehension skills generally presented themselves more favorably than did persons with lower levels of reading ability. Nonetheless, the resulting TSCS profiles for these separate groups of individuals differed primarily only in the extent of their elevations on the various subscale categories. Moreover, a peak score on the Psy scale remained for both groups.

From the SPI data analyses, two conclusions appear to be warranted. First, there was considerable consistency among the deaf students' and observers' judgments as to students' standings on the variables assessed

by the SPI. However, perceptions of the importance of specific behaviors to the socialization process tends to vary with the nature of the role relationships between students and observers. Secondly, where agreement between the three sources of ratings existed (i.e., student, career planning counselor and dormitory advisor), the social behaviors in need of greatest improvement related to the expression and maintenance of self-identity in social relationships (i.e., items 3 and 4 on the SPI). Hence, there is some suggestion that deaf individuals may have difficulty in achieving a perspective of self which is independent of social structure and conformity.

At the time of this writing, a separate study focusing on the validity of self-concept assessment among the deaf via a self-report paper-and-pencil approach had been completed (see Garrison, DeCaro, Tesch & Emerton, 1978). The findings of that study are particularly relevant here.

Briefly, interviews were conducted with 30 students selected randomly from the present study sample for the purpose of ascertaining in some detail the bases for certain of their responses to test items contained in the TSCS. Analysis of the interview data indicated that a majority of the deaf students tested had made idiosyncratic interpretations of the test stimuli, thus affecting their scores on the TSCS in a negative manner. Interviewer perceptions and analyses of other data obtained during the interviews failed to substantiate the finding of low self-esteem. In fact, some evidence was obtained suggesting a tendency toward slightly inflated self-esteem among the deaf students interviewed.

Garrison et al. (1978) concluded from their study that the deaf individual may approach such a test as the TSCS in terms of restricted or unique interpretations of words or concepts, attributable to restricted life experiences. Consequently, scores on the TSCS in the low ranges of self-esteem may well emphasize the limitations of understanding of both the questions posed and the implications of the various response alternatives.

For many deaf individuals, limitations of communication with others and the inability to learn vicariously from the environment through the auditory modality have resulted in a restricted set of knowledge about one's self. Considering the lack of breadth of knowledge from which the deaf individual may draw in order to achieve self-definition, it is reasonable to believe that he or she has a less well-developed perspective of self than does the normally hearing individual. In conclusion, then, the results of the present study may suggest that the deaf are less in need of remedial education which seeks to foster personal/social development per se than they are in need of experiences which will enable them to achieve a greater complexity of understanding about themselves.

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